

T06D03 – 6.2a HW MS

1. (a) (i) it is decreasing;
less frequent collisions/fewer collisions per second or (unit) time; 2
(ii) reactant(s) used up/reaction is complete; 1
Do not accept reaction reaches equilibrium.
- (b) (i) it would increase; 1
Accept a quantitative answer such as “doubles”.
(ii) more frequent collisions;
collisions or molecules have more
energy (*OWTTE*); more molecules with energy $\geq E_a$; 3
(iii) rate would be lower; 2
smaller surface area;
2. (a) molecules must have sufficient/minimum energy/energy \geq activation energy;
appropriate collision geometry/correct orientation; 2
(b) increased frequency of collisions/collisions more likely;
Not just “more collisions”, there must be a reference to time.
increased proportion of molecules with sufficient energy to react/ $E \geq E_a$;
Not “activation energy is reduced”.
Proportion of molecules with $E \geq E_a$ is more important;
(*dependent on correct second marking point*); 3

[9]**[5]**